an image capturing device coupled to the cell holder, the image capturing device being adapted to capture at least one image in at least one of the plurality of sites;

an illumination apparatus comprising a flexible liquid light guide coupled to the cell holder for highlighting the plurality of cells in a relatively even spatial manner for image capturing purposes;

a robot arm for automatically collecting multiple of said cell holders to facilitate capture of the images of the cells or cell structures from said multiple cell holders; and

software that analyzes the images and characterizing features of the cells or cell structures in the images.

IN THE SPECIFICATION:

At page 1, please **replace** the section entitled "CROSS-REFERENCES TO RELATED APPLICATIONS" with the following:

The following commonly-owned co-pending applications, including this one, are being filed concurrently and the others are hereby incorporated by reference in their entirety for all purposes:

1. U.S. Patent Application Serial No. 09/310,879, James H. Sabry, et. al., titled, "A DATABASE METHOD FOR PREDICTIVE CELLULAR BIOINFORMATICS,";
2. U.S. Patent Application Serial No. 09/311,890, James H. Sabry, et. al., titled, "A DATABASE SYSTEM FOR PREDICTIVE CELLULAR BIOINFORMATICS,";
3. U.S. Patent Application Serial No. 60/134,104, Cynthia L. Adams, et. al., titled, "A DATABASE SYSTEM AND USER INTERFACE FOR PREDICTIVE CELLULAR BIOINFORMATICS,"; and
4. U.S. Patent Application Serial No. 09/311,996, Eugeni A. Vaisberg, et. al., titled, "A DATABASE SYSTEM INCLUDING COMPUTER CODE FOR PREDICTIVE CELLULAR BIOINFORMATICS,".

At page 6, please **replace** the section entitled "BRIEF DESCRIPTION OF THE DRAWINGS" with the following:

Fig. 1 is a simplified system diagram of a cellular knowledge-based system according to an embodiment according to the present invention;

Fig. 1A is a simplified diagram of a database system 1000 according to an embodiment of the present invention;

Fig. 1B is a simplified diagram of a database system engine 2000 according to an embodiment of the present invention;

Fig. 2 is a simplified block diagram according to an alternative embodiment according to the present invention;

Fig. 3 is a simplified diagram of a processor or computing device 13;

Fig. 4 is a simplified diagram of an imaging system 200 according to an embodiment of the present invention;

Fig. 5 is a more detailed diagram of an imaging system 200 according to an embodiment of the present invention with the present embodiment of the imaging system being shown in Figs. 5A and 5B;

Fig. 6 is a simplified diagram 600 of a cleaning and dispensing system according to an embodiment of the present invention;

Fig. 7A illustrates a representative block flow diagram of simplified process steps of a method for determining properties of a manipulation based upon effects of the manipulation on one or more portions of one or more cells in a particular embodiment according to the present invention;

Fig. 7B illustrates a representative block flow diagram of simplified process steps for determining one or more descriptors of a state in the portions of the cells in the presence of the manipulation of step 704 of Fig. 7A in a particular embodiment according to the present invention;

Fig. 7C illustrates a representative block flow diagram of simplified process steps for obtaining images of cell portions of step 712 of Fig. 7B in a particular embodiment according to the present invention.

Fig. 7D illustrates a representative block flow diagram of simplified process steps for processing digitized representations of step 716 of Fig. 7B in a particular embodiment according to the present invention;

Fig. 7E illustrates a representative block flow diagram of simplified process steps for analyzing image feature values to obtain descriptors of cell state of step 718 of Fig. 7B in a particular embodiment according to the present invention;

Fig. 7F illustrates a representative block flow diagram of simplified process steps for a method of mapping a manipulation of cells to a physiological characteristic in a particular embodiment according to the present invention;

Fig. 7G illustrates a representative block flow diagram of a simplified process steps for a method for populating a database with manipulated biological cell information in a particular embodiment according to the present invention;

Fig. 8A-8F illustrate representative quantified descriptors of effects of manipulations on images of cells in a particular experiment wherein Fig. 8A shows the histogram for average intensity; Fig. 8B shows histogram data for the area of each object; Fig. 8C shows the scatter plot of the average intensity vs. the area of all of the objects; Fig. 8D shows a graph where each type of cellular classification is delimited; Fig. 8E shows a bar graph of the average and standard deviations of the areas for each cell classification type; Fig. 8F shows a bar graph of the average and standard deviations of the average intensities for each cell classification type;

Fig. 9 illustrates example images for different types of morphologies in a particular experiment;

Fig. 10 illustrates a distribution of various morphologies in a cell population responsive to drug concentration in a particular experiment;

Fig. 11 illustrates a graph of quantified features of effects of manipulations on cells in a particular experiment;

Fig. 12 illustrates effects of external agents on cells in a particular experiment;

Fig. 13 illustrates 4 panels for each marker for a plurality of A549 cells in a particular experiment;

Fig. 14 illustrates 4 panels for each marker for a plurality of OVCAR-3 cells in a particular experiment;

Fig. 15 illustrates 4 panels for each marker for a plurality of OVCAR-3 cells at 20x in a particular experiment;

Fig. 16 illustrates 4 panels for each marker for a plurality of OVCAR-3 cells at 40x in a particular experiment;

Fig. 17 illustrates a digital representation for a population module in a particular embodiment according to the present invention; and

Fig. 18 shows the results of conversion of morphometric parameters into nucleic acid code and clustering of the resulting sequences using Neighbor Joining methods;

Fig. 19 shows another example of the generation of pseudo-sequences and clustering in a particular embodiment according to the present invention.

At page 7, please **replace** the paragraph beginning on line 22 and ending on line 33 with the following: